

KAZAKOVA, T.B.; NEYFAKH, S.A.

Mechanochemical activity and the permeability of the membranes  
of the mitochondrias of normal and tumoral cells. Dokl. AN  
SSSR 152 no.2:471-474 S'63. (MIRA 16:11)

1. Institut eksperimental'noy meditsiny AMN SSSR. Predstavleno  
akademikom N.M. Sisakyanom.

X

ACCESSION NR: AP4012732

S/0218/64/029/001/0035/0040

AUTHOR: Kazakova, T. B.

TITLE: Contractile properties of glycerol models from liver mitochondria

SOURCE: Biokhimiya, v. 29, no. 1, 1984, 35-40

TOPIC TAGS: glycerol model, glycerol mitochondria model, mitochondrial membrane, mitochondrial membrane contractile property, glycerol model contractile property, liver mitochondria, tumor mitochondria, mitochondrial membrane ATP response, mitochondria swelling

ABSTRACT: The purpose of this paper was to compare the contractile properties of the mitochondrial membranes from normal and malignant tissue, and to confirm the author's hypothesis that the glycerol model from a mitochondrion in which the membrane contains contractile protein should respond to ATP with a change in elasticity. Mitochondria were obtained by centrifugation from normal mouse liver, Ehrlich's ascites carcinoma cells, rat hepatoma and Crocker sarcoma, and were suspended in 0.12 M KCl plus phosphate buffer at pH 7.0. Treatment of normal liver mitochondria with 2-3 volumes of 50% glycerol for 24 hours in the cold reversed the usual response of the membrane to the subsequent addition of ATP or calcium ions. In the case of cancer cell mitochondria, however, which

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showed little response to ATP, the elastic properties were not significantly affected by glycerol treatment. High concentrations of ATP protected normal liver mitochondria against glycerol, as did prolonged preincubation in glycerol, which apparently releases a protective protein factor from the mitochondria, rendering them unresponsive to ATP and glycerol. Finally, the swelling of liver mitochondrial models in the presence of ATP (measured by optical density at 520 mμ) was found to be an active process, with the kinetics of an enzymatic reaction. Orig. art. has: 7 figures.

ASSOCIATION: Institut eksperimental'noy meditsiny\* Akademii meditsinskikh nauk SSSR, Leningrad (Institute of Experimental Medicine, Academy of Medical Sciences SSSR)

SUBMITTED: 28Feb63

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NO REF SOV: 008

OTHER: 015

Card

2/2

- 17 (L-210) -

KAZAKOVA, T.B.

Formation of a molecular complex between the mitochondrial  
proteins actomyosin and kinzaine. Vop.med.khim. 10 no.3:324-326  
My-Je '64. (MIRA 18:2)

1. Laboratoriya biokhimicheskoy genetiki Instituta eksperimental'noy  
meditsiny AMN SSSR, Leningrad.

KAZAKOVA, T.B.

Possible genetic functions of mitochondria. TSitologiya 7 no.2:  
141-155 Mr-Apr '65. (MIRA 18:7)

1. Laboratoriya biokhimicheskoy genetiki Instituta eksperimental'-  
noy meditsiny AMN SSSR, Leningrad.

KAZAKOVA, T.B. (Leningrad)

Molecular structure and permeability of mitochondria of the  
living cell. Usp. sov. biol. 60 no.2:198-211 1979.

(M RA 18:10)

KAZAKOVA, T.B.

Contractile properties of glycerin models of liver mitochondria.  
Biokhimiia 29 no. 1:35-40 Ja-F '64. (MIRA 18:12)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.  
Submitted Feb. 28, 1963.

PAKSHIN, M.F., RESENCHUK, N.A., KAZAKOVA, T.G.

Unusual case of amoebic dysentery. Sov.med. 22 no.11:150-151  
N'58 (MIRA 11:11)

1. Iz Sevastopol'skoy sanitarno-epidemiologicheskoy stantsii.  
(AMEBIASIS, INTESTINAL, case reports  
with intestinal ulceration (Bus))

TANANAYEV, I.V.; BOL'SHAKOVA, N.K.; KAZAKOVA, T.I.

Cesium gallium and rubidium gallium alums. Zhur. neorg. khim.  
10 no.2:378-384 F '65.

Thermal decomposition of thallium gallium and ammonium gallium  
alums. Ibid.:385-388 (MIRA 18:11)

1. Submitted July 1, 1963.



UL'YANOVA, A.I.; KAZAKOVA, T.I.

Mutual volumetric determination of cerium salts and trisodium  
orthophosphate. Izv.AN SSSR. Otd.khim.nauk no.11:2099-2102 N  
'62. (MIRA15:12)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR. (Cerium salts) (Sodium phosphate) (Titration)

S/062/63/000/003/001/018  
B101/B186

AUTHORS: Ul'yanov, A. I., and Kazakova, T. I.

TITLE: Synthesis and investigation of properties of neutral and basic cerium orthophosphate

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 393 - 401

TEXT: In order to clarify contradictory data in publications a voluminous precipitate of the neutral orthophosphate was prepared by admixing phosphoric acid to 0.02 - 0.10 mole cerium salt (chloride, bromide or nitrate, but not sulfate) at  $\text{pH} < 6$ . This precipitate was further mixed for 6 hrs, then washed with aqueous acetone solution, pressed at 150 atm, and dried at  $50^\circ\text{C}$ .  $\text{CePO}_4 \cdot x\text{H}_2\text{O}$  was obtained, where  $x = 1.5 - 2.0$ . The solubility product of this compound is  $2 \cdot 10^{-24}$ , dissolution sets in at  $\text{pH} = 1$ . The  $\text{CePO}_4 \cdot 2\text{H}_2\text{O}$  dried at  $50^\circ\text{C}$  has  $N_g = 1.656$ ,  $N_p = 1.648$ , the air-dry phosphate has  $d_4^{17} = 3.135$ . Thermographically, two endothermic effects were found, one at  $140 - 180^\circ\text{C}$ , loss of weight = 6.6 - 7.0 %;

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Synthesis and Investigation of ...

S/062/63/000/003/001/018  
B101/B186

another at 320 - 480°C, loss of weight = 12.5 %. At 500°C the phosphate is anhydrous. Oxidation takes place in the presence of air already at 150°C (yellow coloration due to  $\text{Ce}^{4+}$  formation); melting point is above 1700°C. The neutral cerium orthophosphate crystallizes in a hexagonal way and passes over into the more stable monoclinic modification which is isomorphous to the monacite, after storage for 1 year or heating above 380°C. By adding an aqueous solution of  $\text{Na}_3\text{PO}_4$  to aqueous solutions of cerium salts in inert atmosphere at a ratio of  $\text{PO}_4^{3-} : \text{Ce}^{3+} = 0.9$  the pasty precipitate of the basic  $9\text{CePO}_4 \cdot \text{Ce}(\text{OH})_3 \cdot x\text{H}_2\text{O}$  is obtained, where  $x = 22 - 35$ . The precipitate is washed with water in  $\text{N}_2$  atmosphere, pressed at 150 atm, and dried at 50°C. The solubility product is  $6.2 \cdot 10^{-23}$ ; the compound begins to dissolve at  $\text{pH} = 3.7$ .  $n_D^{17} = 1.614$ ,  $d_4^{17} = 3.286$ . Two endothermic effects at 85 and 175°C were observed in argon, at 100 and 210°C in the air. Dehydration is completed at 500°C, the loss of weight corresponds to 22 - 35  $\text{H}_2\text{O}$ . Oxidation in the air begins at 20°C. The melting point is

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Synthesis and investigation of ...

S/062/63/000/003/001/018  
B101/B186

above 1700°C, the compound is semiamorphous. There are 4 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S.  
Kurnakova Akademii nauk SSSR (Institute of General and  
Inorganic Chemistry imeni N. S. Kurnakov of the Academy of  
Sciences USSR)

SUBMITTED/ June 8, 1962

Card 3/3

UL'YANOV, A.I.; KAZAKOVA, T.I.

Study of the system  $\text{CePO}_4$ - $\text{H}_3\text{PO}_4$ - $\text{H}_2\text{O}$  at  $25^\circ\text{C}$ . Izv. AN SSSR. Ser.khim.  
no.7:1157-1164 J1 '63. (MIRA 16:9)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.  
(Cerium compounds) (Phosphoric acid)

UL'YANOV, A.I.; KAZAKOVA, T.I. ; RUMYANTSEVA, Ye.Ya.

Interaction of cerium (III) sulfate with orthophosphoric acid  
and its sodium salts in an aqueous solution at 25°C. Izv. AN  
SSSR. Otd.khim.nau no.11:1910-1920 N '62. (MIRA 15:12)

1. Institut obshchey i neorganicheskoy khimii im N.S. Kurnakova  
AN SSSR.

(Cerium sulfate)

(Phosphoric acid)

CA KAZAKOVA, T. P.

15-A

Determination of DDT on the surface of wheat grains  
V. I. Vashkov, T. P. Kazakova, N. A. Sazonova, and N. D. Sukhareva. *Gigiena i Sanit.* 1981, No. 10, 1214. The grains are extd. with EtOH and the resid. ext. is nitrated with mixed acid; the nitration products are taken up in CCl<sub>4</sub> and treated with N KOH in EtOH. The color, ranging from blue to violet, is then compared with a standard scale. Heating even to 140° causes very slight shifts in color. The color is stable for 30 min. and requires 3 min. for development. From 0.1 to 1.0 mg. can be detd. with an accuracy of 0.2 mg., or under good conditions 0.1 mg.

G. M. Kosolapoff

V. I. VASHKOV  
T. P. KAZAKOVA  
N. A. SAZONOVA  
N. D. SUKHAREVA

KAZAKOVA, T.P.

USSR

Ref

Central Sci. Res. Dr. Infection Inst

2215. Determination of DDT (dicophane) in food products and on various surfaces. S. V. Zhuravlev and T. P. Kazakova (*Gigiena i Sanitariya*, 1954, [2], 33-37; *Rept. Zh. Khim. Akad. Nauk*, No. 49, 654).  
Coarsely ground wheat (100 g) is extracted for 6 hr. with  $CCl_4$  in a Soxhlet extractor. The extract is shaken with 2 x 70-ml quantities of a 10 per cent. soln. of  $Na_2SO_3$  in conc.  $H_2SO_4$  (sp. gr. 1.84), 2 x 70-ml quantities of a mixture of conc.  $H_2SO_4$  and fuming  $H_2SO_4$  (20 per cent.  $SO_3$ ) (1 + 1) and again with 70 ml of  $Na_2SO_3$ - $H_2SO_4$  soln. The  $CCl_4$  is distilled off and the residue is nitrated at 100°C for 30 to 45 min. with 4 ml of a mixture of  $H_2SO_4$  (sp. gr. 1.84) and  $HNO_3$  (sp. gr. 1.50 to 1.52) (1 + 1); the cooled reaction mixture is poured into 25 ml of ice-water and extracted with 1 x 25 ml and 1 x 15 ml of ether. The ethereal extract is washed with 25 ml of water, 16 ml of 5 per cent. aqueous  $NaOH$  soln. and finally with saturated  $NaCl$  soln. After removal of the ether, the residue is dissolved in 25 ml of benzene; 2 ml of N ethanolic  $KOH$  soln. are added to 3 ml of the benzene soln. and the colour is compared with that produced in standards containing 0.1 to 0.6 mg of dicophane. Modifications of the method are described for the determination of dicophane in milk and in scrapings of plastered and painted surfaces.  
E. Havas



[illegible]

USSR / General and Specialized Zoology. Insects. Harmful Insects and Acarids. Chemical Methods in the Control of Harmful Insects and Acarids. P

Abs Jour : Ref Zhur - Biol., No 18, 1958, No. 82939

Author : Fuks, N. A.; ~~Kazakova, T. P.~~; Tregubov, A. N.;  
Klechetova, A. M.; Pogodina, L. N.; Klechetova, A. M.  
Inst : Central Scientific Research Institute for Disinfectants  
Title : The Clarification of the Reasons for the Low Effectiveness  
of the Emulsions and the Higher Effectiveness of DDT  
Preparations

Orig Pub : Tr. Tsentr. n.-i. dezinfekts. in-ta, 1957, vyp. 10,  
171-173

Abstract : No abstract given

Card 1/1

AUTHORS:

*KAZAKOVA, T.P.*  
Fuks, N.A., Kazakova, T.P.

32-12-61/71

TITLE:

Short Reports (5) (Korotkiye soobshcheniya).

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1520-1520 (USSR)

ABSTRACT:

In this paper a new device for the uniform application of dosed suspension solutions on to surfaces is recommended. According to the schematical drawing given, the apparatus consists of a calibrated glass syringe in which a mixer takes the place of a piston. It further has a knee pipe with stop cock and an atomizer, to which the compressed air is conveyed through a connecting tube. For the purpose of stirring the suspension solution before use, connection to a motor is provided for. The diameter of the knee pipe (capillary) and its curvature is selected in accordance with the character of the suspension solution. The plates to be sprayed, which were previously weighed, are laid upon the disk of a gramophone. Because of the centrifugal force this disk is provided with a projection at its edge. Spraying of the plates takes place while the disk performs 20 to 30 revs. per minute. After the coating has been dried, the plates are again weighed, and the increased weight is then equal to the quantity of the suspension coating. There is 1 figure.

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Short Reports (5)

32-12-61/71

ASSOCIATION: Central Scientific Research Institute for Disinfection  
(Tsentral'nyy nauchno-issledovatel'skiy dezinfektsionnyy institut).

AVAILABLE: Library of Congress

Card 2/2 1. Solutions suspensions-Applications 2. Solution suspensions-Device

KAZAKOVA, T.P.

Community council on guard for children's health. Vop. okh. mat.  
i det. 6 no.9:87-89 S '61. (MIRA 14:9)

1. Iz detskoy polikliniki No.19 Petrogradskogo rayona Leningrada  
(glavnyy vrach - zasluzhennyy vrach RSFSR A.V.Kurbatova). Predsedatel'  
obshchestvennogo soveta na strazhe zdorov'ya detey.  
(LENINGRAD-CHILDREN-CARE AND HYGIENE)

GULIYEV, M.A.; KAZAKOVA, V.A.

Diagnosis of rabies. Veterinariia 38 no.1:77-78 Ja '61.  
(MIRA 15:4)

1. Respublikanskaya vetbaklaboratoriya Gruzinskoy SSR.  
(Rabies)

GRIGYALIS, A.A. [Grigelis, A.], kand. geol.-min. nauk, otv. red.;  
VONSAVICHYUS, V.F. [Vonsavicius, V.], red., GUDYALIS,  
V.K. [Gudelis, V.], red.; DALINKEVICHYUS, I.A.  
[Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;  
KISNERIYUS, Yu.L. [Kisnerius, J.], red.; CHEPULITE, V.A.  
[Cepulyte, V.], red.; ASSOVSKIY, A.N., glav. red.

[Study of the geology of the U.S.S.R.] Geologicheskaya  
izuchennost' SSSR. Glav. red. A.N. Assovskii i dr. Vil'nius,  
AN Litovskoi SSR. Vol. 43. [Lithuanian S.S.R.; the period of  
1800-1955] Litovskaya SSR; period 1800-1955. No. 1. [Published  
works] Pechatnye raboty. 1962. 257 p. (MIRA 17:8)

1. Institut geologii i geografii AN Litovskoy SSR (for  
Grigyalis).

1ST AND 2ND ORDERS		PROCESSES AND	
<p><b>Dynamics of the oxidation of alkyl-substituted organic compounds by chromic acid. 1. Oxidation of 2-methyl-anthraquinone and of its 1-nitro and 1-chloro substitution</b></p> <p>ca</p>		<p>products to 2-carboxylic acids of anthraquinone 11, 10-22(1941). In view of the interest of carboxyanthraquinones in the dye industry, the study of the oxidation of these compounds was undertaken, specifically that of the oxidation of 2-methylanthraquinone (I) and of its 1-NO<sub>2</sub> and 1-Cl derivs. The use of AcOH as the solvent for large-scale CrO<sub>3</sub> oxidation is not practical, very small amts. of water causing an exceedingly great drop of the yield of the carboxy compd. Thus, in the oxidation of 1 g. of I by 3 g. CrO<sub>3</sub> at 20° for 8 hrs. in 50 cc. AcOH, it was found that addn. of 1 cc. H<sub>2</sub>O lowers the yield by 14%, 2 cc. causes a drop of 28%, and 10 cc. lowers the yield by 93%. Similar results were obtained when nitro- or trichloro-acetic acid was used. Use of H<sub>2</sub>O<sub>2</sub>, however, showed that each sp. compd. has an optimum H<sub>2</sub>SO<sub>4</sub> concn., and good yields could be obtained with fairly dil. acid. After a series of runs the optimum conditions for the oxidation of I were found to be: I is mixed with 5-7 parts of H<sub>2</sub>SO<sub>4</sub> (d. 1.83), an equal vol. of H<sub>2</sub>O is added, followed by 3 parts of ground Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> (or K salt) with heating to 80° for 3 hrs., giving directly without purification a quant. yield of 2-carboxyanthraquinone, m. 261-2°. The use of crude I gives just as pure a product but in 10% lower yield. For the optimum oxidation of the 1-NO<sub>2</sub> deriv. of I, it is mixed with 20 parts of 72-5% H<sub>2</sub>SO<sub>4</sub>, treated with 3 parts of dichromate, heated to 80-90° for 8 hrs., yielding, upon the usual working up, 82-83% of pure 1-nitro-2-carboxyanthraquinone, m. 284-5°. The optimum oxidation of the 1-Cl deriv. of I requires mixing it with 20 parts of 70-2% H<sub>2</sub>SO<sub>4</sub>, followed by 3 parts of Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>, letting stand at 15-18° for 24 hrs., followed by isolation of the 1-chloro-2-carboxyanthraquinone, m. 270-1°, in the usual manner, in 82-83% yields, with 1-3% of unoxidized starting material. The nature of the inhibiting action of water upon oxidations of this type is under study and is to be reported later. G. M. K.</p>	
100000 H10 010 011		100000 H10 010 011	
100000 H10 010 011		100000 H10 010 011	



KAZAKOVA, V. A.

\*Corrosion of Metals by Hydrocarbon Solutions of Carboxylic Acids. L. G. Goshin and V. A. Kazakova (*Zhur. Prikl. Khim.*, 1951, 21, (9), 1558-1567; ~~1951, 21, (9), 1558-1567~~). O. and K. investigated the corrosion of completely immersed plates ( $2 \times 20 \times 60$  mm.) of Mg (0.03% Fe, traces Si), Fe (0.31% Mn, 0.21% C, 0.19% S), 0.15% P), and Pb (0.14% Zn, 0.11% Bi, 0.08% Cu, 0.05% Fe) in soln. of acetic (I), propionic (II), *n*-valeric (III), and *n*-caproic (IV) acids in Na-dried solvents: iso-octane (A), benzene (B), and (60-80° C. boiling range) petroleum ether (C). Tests were made at room temp. in diffused light. In 60-hr. tests on 0.5N soln. in A, the mean loss in weight ( $\rho$ ) of Mg with IV and III (0.0835 g.) was 4 times greater than that with II (0.0210 g.), and 8 times that with I (0.0029 g.). If the dependence of  $\rho$  on the soln. concentration ( $C$ ) is of the type  $\rho \sim C^n$ , then  $n > 1$  for Fe in soln. of I, and Mg in soln. of I or II and  $n < 1$  for Mg in soln. of III, and Pb in soln. of II. The compn. of the products obtained varies with  $C$  and with the nature of the solvent and the acid. Thus, in 33 day tests of Mg in 2.05, 0.94, 0.5, 0.25, and 0.12N soln. of I in B, the mean losses in weight were 1.107, 0.136, 0.645, 0.617, and 0.012 g., resp., the product being  $Mg(CH_3COO)_2$ ; but with 0.10-1.69N soln. of I in A the product had the compn.  $Mg(CH_3COO)_2 \cdot 2CH_3COOH$ , inde-

pendent of  $C$ . With Mg or Pb in weak soln. of II or IV in A, the products had the compn.  $Mg(RCOO)_2$ ; but in strong soln., the salt produced was  $Mg(RCOO)_2 \cdot nCH_3COOH$ , and its solubility in A increased with the mol. weight of the acid. The loss in weight of Pb during 40-day tests in 0.5N and 1.44N soln. of IV in A was 1.20 g. in each case; this independence of  $C$  is attributed to the loss of formic acid from the soln. to convert the neutral salt into the acid salt. In soln. of I in A, Fe forms the neutral acetate, which then oxidizes in the air. The corrosion of Mg by I in C is about twice that in A; saturation of C with water had no influence on the corrosion rate.—G. V. K. T.

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CA KAZAKOVA, V. A.

Corrosion of metals by hydrocarbon solutions of fatty acids. I. G. Gindin and V. A. Kazakova, *Doklady Akad. Nauk S.S.S.R.* 80, 389-92 (1951).—Loss of wt. of Mg in 0.5 N solns. in iso-C<sub>11</sub>H<sub>24</sub> increases with the mol. wt. of the fatty acid from AcOH to AmCO<sub>2</sub>H. The aggressiveness of the acid increases by a factor of 2 from AcOH to EtCO<sub>2</sub>H, but by a factor of 8 from EtCO<sub>2</sub>H to PrCO<sub>2</sub>H, and then changes only slightly from PrCO<sub>2</sub>H to BuCO<sub>2</sub>H and AmCO<sub>2</sub>H. The same behavior was found with Pb (in 0.1 N solns.); with further increasing mol. wt., the corrosive action was found to fall sharply from AmCO<sub>2</sub>H to C<sub>11</sub>H<sub>23</sub>CO<sub>2</sub>H. If the dependence of the rate of corrosion,  $\rho$ , on the concn.  $c$  of the acid is represented by  $\rho = kc^n$ , the exponent  $n < 1$  for Pb in EtCO<sub>2</sub>H and Mg in AmCO<sub>2</sub>H, but  $n > 1$  for Fe in AcOH and Mg in AcOH and EtCO<sub>2</sub>H. With Pb in AmCO<sub>2</sub>H,  $\rho$  is the same in  $c = 0.4$  and  $1.4$  N. By the limits of metal and acid consumed, corrosion of Mg in C<sub>11</sub>H<sub>24</sub> solns. of AcOH produces the neutral salt Mg(AcO)<sub>2</sub>, whereas in solns. in iso-C<sub>11</sub>H<sub>24</sub> the corrosion product is the acid salt Mg(AcO)<sub>2</sub>·2AcOH; the compn. of the salts is independent of  $c$  between 0.1 and 2.0 N. In contrast, in the corrosion of

Mg and Pb in iso-C<sub>11</sub>H<sub>24</sub> solns. of EtCO<sub>2</sub>H and AmCO<sub>2</sub>H, the compn. of the product does vary with  $c$ . In 0.5 N EtCO<sub>2</sub>H and in 0.1 N AmCO<sub>2</sub>H, the product is the neutral salt, whereas in 1.0 N EtCO<sub>2</sub>H and 0.5 N AmCO<sub>2</sub>H it is the acid salt. The soly. of the acid salts in iso-C<sub>11</sub>H<sub>24</sub> increases with the mol. wt. of the acid. Corrosion of Fe in iso-C<sub>11</sub>H<sub>24</sub> with the soln. of AcOH produces the neutral salt. The effect of the soln. of AcOH is illustrated by the twice as great rate of corrosion of Mg in 1.5 N AcOH in petr. ether as in C<sub>11</sub>H<sub>24</sub>. Soln. of the org. solvents with H<sub>2</sub>O does not change the rate of corrosion. The magnitude of the rate of corrosion is illustrated by the following mean rates (in g./sq. m. hr.) in iso-C<sub>11</sub>H<sub>24</sub> soln.: Fe, in AcOH 0.26, 0.50, 1.0 N,  $\rho = 0.049, 0.168, 0.431$ ; Mg, in EtCO<sub>2</sub>H 0.25, 0.51, 1.0 N,  $\rho = 0.084, 0.027, 0.075$ ; Pb, at the same concns., 0.490, 0.670, 1.320; Mg, in AmCO<sub>2</sub>H 0.54 and 1.44 N, 0.111 and 0.157; Pb, 0.420 and 0.421. The initial rates are very much higher than these mean rates. The corrosion of Mg in these solns. is accompanied by evolution of H<sub>2</sub>, whereas corrosion of Pb is accompanied by O<sub>2</sub> depolarization; Fe apparently corrodes with mixed H<sub>2</sub>-O<sub>2</sub> depolarization. N. Thon

BAZUKA, V. A.

\*Influence of the Solvent on the Behaviour of Solutions of Acids Towards Metals (Copper and Iron). L. G. Gindin, V. A. Katskova, and I. N. Palkova (*Doklady Akad. Nauk S.S.S.R.*, 1957, 130, 777-780).—[In Russian]. Plates (3 x 20 x 60 mm.) of Fe and Cu were tested in 0.8N-soln. of butyric acid in water, benzene, isooctane, and vaseline oil, at room temp. in diffused light. The  $\alpha$  n. were contained in thick-walled tubes with ground-in stoppers, but O was not excluded. The mean losses in weight of Fe in these soln. after 20 days were 0.0274, 0.4410, 0.0282, and 0.0228 g., resp. (0.0224 g. in pure distilled water); in 50-day tests, the mean losses for the Cu were 0.0324, 0.5518, 0.0328, and 0.0370 g., resp. These results do not support suggestions in the literature that the corrosion rate depends on the elect. conductivity ( $\sigma$ ) of the soln.: for the aq. soln.  $\sigma = 5.4 \times 10^{-4}$  ohm $^{-1}$  cm $^{-1}$ , but for benzene or iso-octane soln. at  $E = 30$  kV/cm.,  $\sigma < 2.1 \times 10^{-11}$  ohm $^{-1}$  cm $^{-1}$ . This discrepancy cannot be explained by supposing that the corrosion is electrochem. in one soln. and purely chem. in the other (cf. G. Ambartsumyan, and Bel'chikova, *ibid.*, 1940, 28, 45; G., *ibid.*, 1950, 73, 518; 1950, 74, 311); it indicates that the corrosion can be attributed to the homogeneous-electrochem. mechanism suggested by Frumkin (*Trudy 2-i Konf. po Korrozii Metallov*, 1940, 5; Kolotyrkin and P., *Zhur. Fiz. Khim.*, 1951, 25, 346; *M.I.*, 10, 250). Since the corrosion rates in iso-octane and oil are almost the same despite the difference in viscosity, the kinetics of dissolution are not determined by diffusion. In experiments to find inhibitors, 1% chlorinated paraffin reduced the corrosion of Fe in the benzene soln. to 1/4-33 of its original value; 1.5% sulphurized stearic acid reduced the corrosion of Cu in the benzene soln. to 1/1-42 of the original value. In addn. to stimulating corrosion in aq. soln. of acids, nitrophenol and nitrobenzaldehyde cause a 2-2.5 times increase in the rate of corrosion of Fe in the benzene soln.—G. V. E. T.

PA 193T27

USSR/Chemistry - Corrosion of Metals Oct 51

"Corrosion of Metals by Hydrocarbon Solutions of Carboxylic Acids," L. G. Gindin, V. A. Kazakova

"Zhur Prikl Khim" Vol XXIV, No 9, pp 958-969

Subsequent to series of investigations of corrosion processes arising in oxidized cracking gasoline, investigated corrosion of Mg, Fe, and Pb by hydrocarbon (isooctane, benzene, and petrol ether) solutions of acetic, propionic, n-valeric, and n-caproic acids. Discusses variations of corrosion in respect to different hydrocarbons and acids. Character of salts formed in

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(Contd)

corrosion processes was found to depend on nature of metal, properties of hydrocarbons, and mol wt and concn of acids.

193T27

KAZAKOVA, V. A.

*R. Corrosion*

*Mat. Rev.*

*1952*

144-R. Corrosion of Metals by Hydrocarbon Solutions of Aliphatic Acids. (In Russian.) L. O. Gindin and V. A. Kazakova. *Doklady Akademii Nauk SSSR*, new ser., v. 80, Sept. 21, 1951, p. 389-392.

The corrosion of Mg, Fe and Pb by solutions of acetic, butyric, valeric, caproic, and lauric acids in benzene, isooctane, and petroleum ether was investigated. Data are tabulated and charted. 11 ref. (R5, Mg, Fe, Pb)

KAZAKOVA, V. A.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Electrochemistry

② Chem.  
The electric conductivity of solutions of saturated fatty  
acids. L. G. Gindin and V. A. Karakova. J. Gen. Chem.  
U.S.S.R. 22, 1807-8 (1953) (Engl. translation).—See C.A.  
47, 2000c. H. L. H.

9-2-54  
JPH

KAZAKOVA, V.A.

USSR.

Corrosion of steels by kerosene and methods of its inhibition. L. N. Putilova, L. G. Gindin, E. V. Aramonova, and V. A. Kazakova. *J. Appl. Chem. U.S.S.R.* 26, 127-32 (1966) (Engl. transl.).—See *C.A.* 48, 25536.  
H L H.

KAZAKOVA, V. A.

✓ 1437. CORROSION OF STEELS BY KEROSENE AND METHODS OF PREVENTION.  
 Potilova, I. N., Gindin, I. G., Aramonoys, L. V. and Kazakova, V. A. (Zh.  
 prikl. Khim. (J. appl. Chem., U.S.S.R.), Feb. 1953, vol. 26, 148-154).  
 Plates (60 x 20 x 2 mm) of 5 low-alloy steels were immersed (room temp.  
 diffuse daylight, O<sub>2</sub> not excluded) in kerosene (b.p. 147-279, neut.  
 val. 0.005, I.V. 0.3, S 0.05%) and time to visible corrosion noted.

W-containing (1.5%) steel was most resistant. Corrosion is due to  
 oxidation of kerosene on metal surface with formation of acids; 90% of  
 corrosion product is Fe<sup>III</sup> salt of organic acids. Kerosene dried and  
 purified by standing over Na causes negligible corrosion. Na benzoate does  
 not significantly decrease corrosion in kerosene phase, although inhibiting  
 corrosion in water phase if free water is present. Certain organic  
 substances (not specified) containing Cl, S, Br, and OH groups when added to  
 kerosene inhibit corrosivity of latter.

10-13-57  
 gyp



Kazakova V.A.

✓ A study of the influence of high-melting elements on the autodiffusion of iron by using the radioactive isotopes. S. Z. Boksheln, V. A. Kazakova, S. T. Kishkin, and L. M. Mirskii. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1955, No. 12, 18-27. The autodiffusion of Fe in Fe-Ni alloy (around 25% Ni) was studied after the addn. of a third alloying element (Mo, Nb, Ti, or V) by electroplating a 3-4  $\mu$ -thick layer of Fe<sup>59</sup> from a sulfate soln. upon an alloy plate 29 x 9 x 7 mm. in size, fastening 2 such plated strips with their active faces adjoining, enclosing them in quartz tubes, evacuating to a  $10^{-4}$  mm. vacuum, and annealing at 1000, 1100, 1150, and 1200°. After each heat-treatment, thin layers were machined off along the active surfaces to a thickness controlled by sensitive micrometers and by microweighing. A low concn. of the third alloying elements was found sufficient to repress the iron polymorphic transformations: thus, with only 0.8% Ti only the  $\alpha$ -Fe crystal lattice could be observed over the whole annealing temp. range. A table is given of the relation of the autodiffusion coeff.  $D$  and the concns. of the third element. Ni and V addns. lower the diffusional mobility of Fe and reduce the values of  $D$  and the autodiffusion energy. Mo, Nb, and Ti lower the Fe mobility, but raise the value of  $D$  and greatly increase the diffusion heat. It is concluded that the addn. of the last three alloying elements results in strengthening the at. bond energy, in accordance with the higher recrystn. temp. and the tensile strength of the alloys. W. M. S.

(3)

KAZAKOVA, V.A.

Cerebral paralysis in children. Trudy Izhev.gos.med.inst.  
21:166-169 '64.

(MIRA 19:1)

1. Kafedra nervnykh bolezney (zav. - dotsent T.S.Osintseva)  
Izhevskogo meditsinskogo instituta.

ALEKSANDROV, Ye.A.; ATABEKOV, G.I.; YABLOKOV, V.D.; OBRAZTSOV, V.A.;  
KAZAKOVA, V.A.; GAGORINA, N.P.; SUKHOVENKHOV, V.F.

Inventions. Energ. i elektrotekh. prom. no.2:45 Ap-Je '65.  
(MIRA 18:8)

GARUNKSHTENE, S.S.[Garunkstiene, S.]; GRIGYALIS, A.A.[Grigelis, A.],  
kand. geo.-miner. nauk; VONSAVICHYUS, V.P.[Vonsevicius, V.],  
red.; GAYGALAS, A.I.[Gaigalas, A.], red.; DALINKEVICHYUS,  
I.A.[Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;  
KISNERYUS, Yu.L.[Kisnerius, J.], red.; CHEPULITE, V.A.  
[Cepulyte, V.], red.

[Study of the geology of the U.S.S.R.] Geologicheskaya izu-  
chennost' SSSR. Vil'nius, Mintis. Vol.43. No.1. 1964. 244 p.  
(MIRA 18:10)

BUCHIN, A.N.; GUZHNOVSKIY, I.P.; GOLUBEVA, T.S.; KAZAKOVA, V. Ye.;  
KARGANOV, V.S.; LUZINA, N.I.

Programming the development of oil fields in southern regions;  
economic analysis. Trudy VNII no.39:34-43 '63.

(MIRA 17:10)

KAZAKOVA, Y. M.

"Intermolecular Reaction and Dielectric Polarization of Ternary Systems of Bromine and Iodine with Various Organic Compounds in Benzene as a Solvent." Cand Chem Sci, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov, 27 Sep 54. (VK, 14 Sep 54)

SO: Sum 432, 29 Mar 55

KAZAKOVA, V. M.

USSR

✓ Diastereomers of some intermediate products in the  
synthesis of vitamin A. V. M. Kazakova, Ya. K. Syrkin,  
and A. M. Shidlofskaya. *Bull. Acad. Sci. U.S.S.R., Div.  
Chem. Sci.* 1954, 477-8 (Engl. translation).-- See C-1, 43,  
134047. H. L. H.

*KAZAKOVA, V.M.*

USSR/Chemistry      Vitamins

Card : 1/1

Authors : Kazakova, V. M., Syrkin, Ya. K., and Shidlovskaya, A. N.

Title : Dipole moments of certain intermediate products from the synthesis of vitamin A (Brief report)

Periodical : Izv. AN SSSR, Otd. Khim. Nauk, 3, 562 - 563, May - June 1954

Abstract : The dipole moments of certain beta-ionone derivatives, which are intermediate products of vitamin A synthesis, were investigated and the dielectric constants in a phenol solution were determined at 25° by the heterodyne method. The results obtained are given in tables.

Institution : The M. V. Lomonosov Institute of Delicate Chemical Technology, Moscow

Submitted : February 16, 1954



AUTHORS: Kazakova, V. M., Syrkin, Ya. K. SOV/62-58-6-3/37

TITLE: The Dielectric Polarization of Molecular Iodine- and Bromine Compounds (Dielektricheskaya polyarizatsiya molekulyarnykh soyedineniy yoda i broma)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 673 - 678 (USSR)

ABSTRACT: An explanation was found for the abnormal properties of "brown-violet" and "brown" iodine solutions (in  $C_6H_6$ ,  $C_5H_5N$ ), viz.: increased solubility of iodine, its reactivity, etc. in connection with the investigation of ultraviolet absorption spectra (possibility of the presence of iodine complexes with molecules of the solvent in the solution). Data concerning the interaction between bromine and organic substances are rarely found in published works. In the course of the present paper the authors give a report about measurements carried out of the dielectric polarization of 22 trinary systems of iodine and bromine (acceptors) with various organic compounds (donors) in benzene as a solvent. In some cases stable molecular compounds (with high polarity) were found to be formed at the expense of the

Card 1/2

The Dielectric Polarization of Molecular Iodine-  
and Bromine Compounds

SOV/62-58-6-3/37

formation of donors and acceptors. As the result of interaction with nitrogen-containing compounds bromine was found to be a particularly effective acceptor. In interaction with aromatic hydrocarbons, however, iodine is a strong acceptor. There are 1 table and 7 references, 2 of which are Soviet.

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im.M.V.Lomonosova  
(Institute of Fine Chemical Technology ineni M.V.Lomonosov)  
SUBMITTED: February 16, 1957

1. Iodine--Properties 2. Iodine--Polarization 3. Ultraviolet spectroscopy 4. Bromine--Properties 5. Bromine--Polarization 6. Complex compounds--Analysis

Card 2/2

KHAUSSER, K. [Hausser, K.]; KAZAKOVA, V.M. [translator]

Electron and nuclear resonance utilized for the study of molecular structure. By K. Hausser. (Translated from "Angew. Chem." 68,728, 1956 by V.M. Kazakova). Usp. khim. 27 no.4:403-430 Ap '58.  
(MIRA 11:6)  
(Stereochemistry) (Electrons) (Nuclear magnetic resonance)

5(4),24(3)

AUTHORS:

Kazakova, V. M., Syrkin, Ya. K.

SOV/62-59-4-38/42

TITLE:

Paramagnetic Electron Resonance of Metal Ketyls (Elektronnyy paramagnitnyy rezonans metallketilov)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 755-756 (USSR)

ABSTRACT:

This is a short communication on the investigation of the spectra of the paramagnetic electron resonance of 6 ketyls obtained by the effect of metallic potassium or sodium on respective ketones, among them of hexamethyl acetone sodium-ketyl by Nazarov. The reactions were carried out in carefully purified ether or benzene in a dry nitrogen current at room temperature. Ketyls were obtained in the form of colored solid precipitates on pieces of metal. The measurements were carried out at a frequency of 9,800 megacycles on a radiofrequency spectrometer with magnetic field modulation. The width of the absorption bands  $\Delta H_{1/2}$  of the ketyls was measured in comparison to the standard substance - powderized 1,1-diphenylpicryl-hydracyl. The results are shown in the table. The factors of

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Paramagnetic Electron Resonance of Metal Ketyls

SOV/62-59-4-38/42

the spectroscopic splitting were similar for all ketyls and approached the  $g$ -factor of hydracyl:  $g_{\text{ketyl}} - g_{\text{hydracyl}} \pm 0.0010$ .  
There are 1 table and 6 references, 1 of which is Soviet.

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova  
(Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: September 16, 1958

Card 2/2

AUTHORS: Kazakova, V. M., Syrkin, Ya. K.,  
Corresponding Member AS USSR

S/020/60/131/02/038/071  
B004/B007

TITLE: The Hyperfine Structure of the Electron Paramagnetic Resonance  
Spectra of Benzophenone-K-ketyl <sup>7</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 2, pp 346 - 347  
(USSR)

ABSTRACT: In reference 1, the authors give a report on electron paramagnetic resonance (e.p.r.) spectra of several ketyl reaction products of alkali metals with ketones in an inert gas flow. In the present paper, the hyperfine structure of the e.p.r. spectra of benzophenone-K-ketyl and of phenyl-diphenyl-ketone-K-ketyl in a benzene solution was investigated. Resolution of the hyperfine structure of the last-mentioned compound could not be successfully attained. In the case of benzophenone-K-ketyl a septet was observed (Fig 1), which was resolved into 23 lines when the solution was diluted (Fig 2). The authors give an explanation of the spectrum: The seven components of the spectrum are produced by direct interaction of the unpaired electron with the four ortho- and two paraprotons of the ring. Further cleavage is caused by the four metaprotons. The spin densities of the unpaired electron were calculated as being 0.093 for the o- and

Card 1/2

The Hyperfine Structure of the Electron Paramagnetic  
Resonance Spectra of Benzophenone-K-ketyl

S/020/60/131/02/038/071  
B004/B007

p-position, and 0.031 for the m-position (Fig 3). These values agree well with those obtained for diphenyl methyl (o- and p-position - 0.10). The authors continue investigating the e.p.r. spectra of solutions of aromatic and aliphatic metal ketyls. There are 3 figures and 4 references, 2 of which are Soviet. ✓

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im.  
M. V. Lomonosova (Moscow Institute of Fine Chemical Technology  
imeni M. V. Lomonosov)

SUBMITTED: November 4, 1959

Card 2/2

81721  
S/020/60/133/01/31/070  
B011/B003

53100  
AUTHORS: Kazakova, V. M., Syrkin, Ya. K., Corresponding Member of  
the AS USSR

TITLE: Electron Paramagnetic Resonance Spectra of Some Aromatic  
and Aliphatic Metal Ketyls in Solutions

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 1,  
pp. 112-114

TEXT: The authors studied the above-mentioned spectra (EPR) of dilute solutions of 1) phenanthrene quinone K-ketyl, 2) benzyl K-ketyl, 3) hexamethyl acetone K-ketyl, 4) diethyl pinacolin K-ketyl, and 5) triethyl pinacolin K-ketyl in 1,2-dimethoxyethane. For the first substance the authors obtained a hyperfine structure of five components (Fig. 1a) with a splitting of 1.1-1.2 gauss. From this it may be seen that not all eight protons are equivalent, but there are two different proton groups of equal size (four protons each). The fact that a quintet was found for the first substance is to be ascribed to the energy difference in the localization of the unpaired electron at all centers from 1 to 8

Card 1/3



Electron Paramagnetic Resonance Spectra of Some Aromatic and Aliphatic Metal Ketyls in Solutions <sup>81721</sup> S/020/60/133/01/31/070 B011/B003

(cf. Schemes). As regards energy, four positions are more favorable: 1, 3, 6, and 8. This leads to the resolution of the quintet in the spectrum. The data obtained indicate a considerable localization of the unpaired electron on the carbonyl hydrocarbons. The spectrum of the solutions of the second substance (also in tetrahydrofuran) shows only seven components of the hyperfine structure (Fig. 1b). This spectrum could not be resolved because the splitting was very small. However, also the spectrum obtained indicates that the ortho- and para-positions in the benzene rings are equivalent (as in benzophenone K-ketyl). The small splitting and the narrow absorption line are indicative of an even greater localization of the unpaired electron on the carbonyl hydrocarbon atoms than in the case of the first substance. The third substance yielded a very narrow singlet signal (0.5-0.7 gauss wide) in a fairly wide concentration range (Fig. 1v). The localization of the unpaired electron is the same as in the first substance. The missing hyperfine structure is ascribed to the absence of nuclei with non-zero spin in the neighborhood of the above-mentioned carbonyl hydrocarbon. However, there are protons in the molecule, which are only bound to the  $\gamma$ -hydrocarbon. It is, however, known that  $\gamma$ -protons cause no splitting. The fourth substance

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Electron Paramagnetic Resonance Spectra of Some Aromatic and Aliphatic Metal Ketyls in Solutions <sup>81721</sup> S/020/60/133/01/31/070 B011/B003

yielded a completely split doublet (splitting of 2.1 gauss) (Fig. 1g). This is apparently caused by one single  $\beta$ -proton which is bound to the  $\beta$ -hydrocarbon. The fifth substance has a narrow singlet signal with two weak side components. These are caused by a slight admixture of the fourth substance. The data obtained for aromatic methyl ketyls show that the distribution of the spin density agrees with the concept of the additional stabilization of free radicals. This is due to the localization of the unpaired electron in the cycle. The authors thank I. Yu. Kokoreva for her assistance in experiments. There are 1 figure and 4 references: 2 Soviet, 1 British, and 1 American.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: March 23, 1960

Card 3/3

SYRKIN, Ya.K.; KAZAKOVA, V.M.

Electron paramagnetic resonance spectrum of  $\beta$ -carotene.  
Izv. AN SSSR. Otd.khim.nauk no.8:1527 Ag '61. (MIRA 14:8)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.  
(Carotene—Spectra)

KOKOREVA, Yu.; KAZAKOVA, V.M.

Dipole moments of *o*- and *p*-isobornylcresols and their bromides.  
Zhur. ob. khim. 31 no. 2:371-372 P '61. (MIRA 14:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.  
Lomonosova.

(Cresol—Dipole moments)

KAZAKOVA, V.M.; FEL'DSHTEYN, L.S.

Dielectric polarization of molecular compounds between aromatic amines and nitrophenols, and of systems formed by triethylamine and pyridine with water. Zhur. fiz. khim. 35 no.3:488-491 Mr '61.

(MIRA 14:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova.

(Amines) (Phenols) (Pyridine) (Polarization(Electricity))

S/062/63/000/002/018/020  
B144/B186"

AUTHORS: Syrkin, Ya. K., and Kazakova, V. M.

TITLE: Structure of aromatic hydrocarbon anions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 2, 1963, 382 - 384

TEXT: A short survey is made of data published on the chemical reactions of alkali metals with hydrocarbons and on the conclusions drawn from the epr-spectra. The hyperfine structure found by previous authors for the anions of these hydrocarbons is confirmed and explained based on the reactions of K with toluene (1), dibenzyl (II), and diphenyl methane (3). The formation of anions is assumed to proceed from isomers which have a low energy difference  $\Delta E$  between the rotor occupied and the inner free molecular shells.  $\Delta E$  was  $1.05 \beta$  for the toluene isomer and  $0.4 \beta$  for the dibenzyl isomer. The anion structures suggested are: 1)  $(\text{>C}_6\text{H}_4\text{CH}_2)^-$ ; 2)  $(\text{X-C}_6\text{H}_4\text{CH-CH-C}_6\text{H}_4\text{X})^-$ ; 3)  $(\text{X-C}_6\text{H}_4\text{CH-C}_6\text{H}_4)^-$  and  $(\text{H}_2\text{C-C}_6\text{H}_4\text{CH-C}_6\text{H}_4\text{X})^-$ .

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova  
Card 1/2 (Institute of Fine Chemical Technology imeni M. V. Lomonosov) ✓

Structure of aromatic...

S/062/63/000/002/018/020  
B144/B186

SUBMITTED: September 26, 1962

✓

Card 2/2

KAZAKOVA, V.M.; SYRKIN, Ya.K.; LIPINKO, G.M.

Electron paramagnetic resonance spectrum of potassium-ketyl  
p,p-dimethylbenzophenone. Zhur.strukt.khim. 4 no.6:915-916  
N-D '63. (MIRA 17:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
Lomonosova.

ZOLOTAVIN, V.L.; KAZAKOVA, V.M.

Photocolorimetric method for determining fluorine in natural  
and waste waters. Zav.lab. 31 no.3:297 '65.

(MIRA 18:12)



SHAPIRO, B. I.; KAZAKOVA, W. M.; YERIN, Ya. Z., akademi

Mechanism underlying the interaction of some aromatic diazo  
derivatives with alkali as studied by the electron paramagnetic  
resonance method. Dokl. AN SSSR 165 no.3:619-621 N 1965.

(MHA 13.11)

L. Moskovsky Institut teoriy khimicheskoy tekhnologii im.  
M.V. Lomonosova.

SHAPIRO, E.I.; KAZAKOVA, V.M.; SYRKIN, Ye.N.

Study of some derivatives of aromatic ion radicals by the  
electron paramagnetic resonance method. Zhur. strukt. Khim.  
6 no. 4:540-547 J1-Ag '65 (MIRA 19:1)

I. Institut teknoy khimicheskoy tekhniky i. imeni M.V. Lomonosova. Submitted February 17, 1965.

KAZAKOVA, V.N.

Specificity of autoantibodies in burn disease. Pat. fiziol. i eksp.  
terap. no.2:34-38 '64. (MIRA 17:9)

1. Laboratoriya kontrolya krovezameniteley (zav. L.N.Pushkar')  
TSentral'nogo ordena Lenina instituta gematologii i perelivaniya  
krovi (dir. - dotsent A.K.Kiselev), Moskva.

FUSHKAR', L.N., KAZAKOVA, V.N.; GERASIMOVA, I.I.

Serological study of the blood in patients with burns. Probl.  
gemat. i perel. krovi 9 no. 2-18-52 S 164. (MIRA 18:7)

1. Laboratoriya kontrolya preparatov krovi i krovezameniteley  
(zav. - L.N.Pushkar') i patofiziologicheskaya laboratoriya (zav.  
deystvitel'nyy chlen AMN SSSR prof. N.A.Fedorov) Tsentral'nogo  
ordena Lenina instituta gematologii i perelivaniya krovi (di-  
rektor: dotsent A.Ye.Kiselev) Ministerstva zdravookhraneniya  
SSSR, Moskva.

KAZAKOVA, V.N.; PUSHKAR', L.N., SKURKOVICH, F.V.; SHVEDOVA, G.N.

Preservation of immune antitumor preparations. Izv. gos. i  
perel. krovi 9 no.9:52-54 S. 164. (MIRA 18:7)

1. laboratoriya kontrolya preparatov krovi i krovokomponentey  
ISentral'nogo ordena Lenina instituta gematologii i perelivaniya  
krovi (direktor - dotsent A.Ye. Fiselev), Moskva.

KAZAKOVA, V.P.

Stratigraphy and fauna of lamellibranchia of middle Miocene  
deposits in Opol'ye. Trudy MGRI no.27:171-307 '52.

(MIRA 8:12)

(Opol'ye--Lamellibranchiata, Fossil)

KAZAKOVA, V.P.

Stratigraphy of lower- and-middle Jurassic sediments in the  
Aygamugadon Basin (Gornaya Ossotia). Izv. vys. ucheb. zav.;  
geol. i razv. 1 no.8:60-65 Ag '58. (MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova,  
Kafedra istoricheskoy i regional'noy geologii.  
(Ossotia--Geology, Stratigraphic)

BEZNOSOV, N.V.; KAZAKOVA, V.P.

Age of the volcanic formation in central Balkaria. Sov. geol. 2  
no.6:130-133 Je '59. (MIRA 12:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomsova.  
(Kabardino-Balkar A.S.S.R.--Rocks, Igneous)



BEZNOSOV, N.V.; KAZAKOVA, V.P.; LEONOV, Yu.G.; PANOV, D.I.

Stratigraphy of lower and middle Jurassic sediments in the central  
Caucasus. *Biul.MOIP.Otd.geol.* 34 no.4:150 JI-Ag '59.

(MIRA 13:8)

(Caucasus--Geology, Stratigraphic)

BEZNOSOV, N.V.; KAZAKOVA, V.P.; LEONOV, Yu.G.; PANOV, D.I.

Lower and middle Jurassic stratigraphy of the central part of  
the Northern Caucasus. Trudy VNIIGAZ no.10:109-191 '60.

(MIRA 13:10)

(Caucasus, Northern--Geology, Stratigraphic)

ZHIVAGO, N.V.; KAZAKOVA, V.P.

Age of sandstones in the Akhyzyrt Range in the cross section of  
Jurassic sediments abundant in the Little and Greater Laba  
Valleys in the Northern Caucasus. Trudy VNIIGAZ no.10:218-225  
'60. (MIRA 13:10)

(Akhyzyrt Range--Sandstone)

KAZAKOVA, V.P.; LEONOV, G.P.

Problem of the stratigraphic position and age of the so-called  
"Onchophora beds" in the northern Yergeni Hills. Biul. MOIP.  
Otd. geol. 36 no.2:39-62 Mr-Apr '61. (MIRA 14:7)  
(Yergeni Hills--Geology, Stratigraphic) (Quartz)

KAZAKOVA, V.P.

Stratigraphy of Lower Jurassic sediments in the Bodrak basin (Crimea).  
Bibl. MOIP. Otd.geol. 37 no.4:36-51 JI-Ag '62, (MIRA 16:5)  
(Bodrak Valley—Geology, Stratigraphic)

KAZAKOVA V.P.

Some problems of the zonal division of Lower and Middle  
Jurassic deposits in the Northern Caucasus. Biul. MOIP.  
Otd. geol. 38 no.5:20-33 S-O '63. (MIRA 17:1)

NAIDIN, Dmitriy Pavlovich; KAZAKOVA, V.F., red.

[Upper Cretaceous belemnites of the Russian Platform and adjacent areas; Actinocamax, Gonioteuthis, Belemnelloamax] Verkhnemelovye belemnity Russkoi platfomy i sopredel'nykh oblastei; aktinokamaksy, goniotitisy i belemnellokamaksy. Moskva, Izd-vo Mosk. univ., 1964. 204 p. (MIRA 17:11)

KAZAKOVA, V.P.

Volume of the Aalen stage and the boundaries of the lower  
and middle sections of the Jurassic system. Vest. Mosk. un.  
Ser. 4: Geol. 19 no.3:75-82 My-Je '64.

(MIRA 17:12)

1. Kafedra istoricheskoy i regional'noy geologii Miskovskogo  
universiteta.



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Dissertation: "Heat Loss to Boiling Water at Intensive Heat Flows and Influence of Pressure." Moscow Order of Lenin Power Engineering Inst imeni V.M. Molotov, 14 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17836)

USSR/Engineering  
Water-Pressure, Measurements  
Heat - Transmission

Jan 49

"Effect of Pressure on the Maximum Heating Current  
in Boiling Large Volumes of Water," Ye. A. Karakova,  
Power Eng Inst Imeni G. M. Krzhizhanskii, Acad Sci  
USSR, 6 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 1

Gives results of investigating dependence of maximum  
heat transmission on pressure. Concludes that: (1)  
substantial increase in maximum heat-transmission  
value with a rise in pressure up to 70-80 atm insures  
greater security of operation for heating surfaces in  
24/4923

Jan 49

USSR/Engineering (Contd)

steam boilers and other industrial machines than  
occurs at atmospheric pressure, and (2) decrease  
of maximum heat transmission at pressures above  
80 atm indicates that this may be a critical  
point.

KARAKOVA, YE. A.

24/4923



2660. **INFLUENCE OF PRESSURE UPON RATE OF EVAPORATION.** Karakova, G.A. (Investia Akad. Nauk S.S.S.R., Otdelenie Tekhnicheskikh Nauk. Jan. 1949, (1), 64; abstr. in Engng Boiler Ho. Rev., July 1949, vol. 64, 229-230). The author describes a specially constructed experimental apparatus for high pressure testing employed at the Institute of Energetics of the U.S.S.R. Academy of Science, Moscow, to obtain information on the influence of the steam pressure upon heat transfer in the process of steam generation, and on the relationship between the heat transfer coefficient and the temperature difference prevailing between heating surface and the boiling point of the water. The heating surface consisted of an electrically-heated thin wire contained in a steel tube fed with distilled water and capable of withstanding working pressures up to 300 atmospheres. For pressures up to 70 atmospheres copper wire of 0.135 m.m. diameter was used while nichrome wire of 0.25 m.m. was employed for higher pressures. Tests conducted at pressures rising to a maximum of 115 atmospheres revealed that the heat transfer to boiling water increases considerably with the pressure until a pressure range of 50 to 70 atmospheres is reached. At these pressures, the heat transfer from the heating surface to the boiling

ASB-114 METALLURGICAL LITERATURE CLASSIFICATION

water attained a maximum of 2.6 million cal. per sq. m. per hour with copper wire and of 4.6 million cal. per sq. m. per hour when nichrome wire was used. Further increases in pressure were accompanied by gradual decreases in the rate of heat transfer and at 11.4 atmospheres the heat transfer rate was found to have diminished to that recorded for an operating pressure of 1 atmosphere. The opinion is expressed that this fall-off is due to a transition to film boiling as the critical pressure is being approached. The difference in the rates of heat transfer observed with the two materials is ascribed to the different corrosion properties of the copper and nichrome wires at such operating temperatures. The conclusion is drawn that, from the view point of operational safety, the high heat transfer obtainable with pressures of 70 to 80 atmospheres is an advantage.

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PA

Mechanism of deposition of salts on heating surfaces during intense vaporization. M. A. Styrikovich and E. A. Kozakova. *Doklady Akad. Nauk S.S.S.R.* 68, 851-4 (1970).--Sols. of  $\text{Na}_2\text{SO}_4$  of 1, 5, 20, and 100 g./l. and satd (at 100°) gypsum soln. were boiled at atm. pressure, heat input in most cases being  $5-6 \times 10^6$  kcal./sq. m./hr. and solns. of  $\text{Na}_2\text{SO}_4$  of 1 and 5 g./l. were boiled under pressure of 32 and 60.5 atm. in a steel app. with a reflux condenser. In heat input being up to  $1.5-2 \times 10^6$  kcal./sq. m./hr. In the case of solns. far from satn., there were no deposits when large vols. were boiled at atm. or higher pressures. From solns. close to satn., there was active deposition of salts, the intensity of deposition increasing with heat input. For relatively small heat flows and rare centers of vapor formation, the deposition of salts was on the whole heating surface, regardless of the location of vapor bubbles. Deposits of easily sol. salts, observed in high-pressure boilers, are not the result of a considerable increase in concn. of boiler water in the boundary layer, caused by intensive vapor formation. Apparently, the chief cause for these deposits are the unfavorable hydrodynamic conditions of washing over the inner heating surface of the tubes; the origin of these conditions is related to defects in circulation of water in steam boilers. B. Z. Kamich

1957

KAZAKOVA, E. A.

## Maximum Heat Transfer to Boiling Water at High Pressures

By E. A. KAZAKOVA. (From *Izvestia Akademii Nauk SSSR*, No. 9, September 1950, pp. 1377-1387, 11 illustrations.)

*The heat transfer from a platinum wire heated by alternating current to boiling water is described. The pressures used range from 1-200 atmospheres. The apparatus used as well as the experimental method and the nature of the measurements taken are described in detail. The results are illustrated by curves and final conclusions are given in the last paragraph.*

When boiling liquids, as the heat intensity at the heated surface increases, the number of vapour bubbles formed becomes important inasmuch as the usual form of bubble-boiling is superseded by so-called "film boiling" which is characterised by the appearance on the heated surface of a continuous layer of vapour. With the appearance of such a layer, access of the liquid to the heated surface ceases and the intensity of heat exchange falls rapidly.

Experiments at atmospheric pressure showed that during the transition from bubble-boiling to film boiling the decrease in the magnitude of the coefficient of heat transfer is of the order of several decimal places. This decrease in the intensity of heat exchange, in spite of the possible decline in surface efficiency, can cause a prohibitive increase in wall temperature. Therefore, to ensure good heat transmission at the heated surface, it is necessary to avoid conditions leading to the film boiling state.

It has many times been shown that the transition from bubble-boiling to film boiling at atmospheric pressure occurs at a certain heat transfer and temperature difference between the heated wall and the boiling liquid. This heat transfer is called the "maximum or critical heat transfer  $q_{max}$ ." The value of the critical heat transfer depends on the physical properties of the liquid and a number of other factors, the most important of which is the variation in pressure.

An investigation carried out by the author<sup>1</sup> in 1945-46 showed that by increasing the pressure to about one third of the critical value, a considerable increase of  $q_{max}$  is observed (3-4 times).

In the work of S. S. Kutateladze<sup>2</sup> carried out at a pressure of 20 atm on graphite plates heated by an electric current, a considerable increase of  $q_{max}$  was noticed. Similar results were obtained by Cichelli and Bonilla<sup>3</sup> with organic substances; experimental diffi-

## APPARATUS AND EXPERIMENTAL METHOD

The high-pressure boiler shown in Fig. 1 consists of a machined thick-walled steel cylinder made up of separate parts welded together. The internal diameter of the cylinder is 50 mm and its total length 600 mm. It was provided with an inspection hole, which could be used up to 100 atm. The heating surface on which the boiling process took place consisted of a horizontally stretched wire of 0.15 mm dia. carrying electric current. The electrodes were introduced into the apparatus through glands provided with water cooling to keep the rubber packings at normal temperature. To avoid short-circuiting, the electric leads were enclosed in porcelain or quartz tubes. The electrode ends inside the apparatus were fixed to a special insulator, to which also the platinum wire was attached. To compensate for temperature deviations, a telescopic mechanism with a spring coupling on one of the leads was provided.

The vapours formed were condensed in the condenser, and the condensate flowed back into the boiler. The left-hand part of the condenser, in which the vapours rise was fitted with an electric heater, and the right-hand part with a cooling jacket. The boiler and the condenser were previously pressure-tested at 300 atm, which enabled tests with water to be carried out up to the critical pressure (225.5 atm).

To reach the necessary pressure quickly and to avoid escape of heat into the surrounding medium, the high pressure apparatus was covered with a cylindrical metal tank provided with mica insulation, over which an electric heater winding was provided. Thermocouples attached to the pressure parts of the apparatus at various points and to the external cover made it possible to maintain the required pressure with sufficient accuracy. The whole lay-out was provided with good

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heat insulation. For the purpose of determining the boiling temperature of water, the apparatus was provided with a welded socket, in which a thermocouple was inserted. The working range of the condenser was observed by means of thermocouples fixed to the walls of pipes connecting the condenser with the boiler. The temperature was determined by means of a potentiometer, permitting a reading accuracy of 0.5 °C.

To avoid corrosion and the electrolytic deposition of copper on the surface of the wire, alternating current was used in this work. However, this made electrical measurements much more difficult.

The measurements to be made consisted in measuring the consumption of electrical energy and in recording the variation of wire resistance for the purpose of measuring the temperature increase taking place in conjunction with an increase in the rate of evaporation.

The experimental installation<sup>9</sup> is shown schematically in Fig. 2. According to this scheme, the heating wire was passed simultaneously by the a.c. heating current of 20 A and by a measuring d.c. current of about 0.1 A. In order to prevent the a.c. flowing into the d.c. circuits, the bridge included an inductance coil with a sufficiently high reactance.

However, to determine the heater wire resistance  $R_w$ , it was necessary to maintain constant the d.c. resistance in the a.c. circuit. A transformer was therefore included and the current-regulating rheostats were placed on the primary side so as to ensure constant resistance in the secondary circuit, which included the heating wire element. To minimize the influence of

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The correction was determined, on the basis of deviations of the temperature coefficient of resistivity of a standard platinum wire heater placed in the boiler (at various temperatures), from the nominal value of the coefficient for platinum. This correction changed the value of heat transfer by 5-10 per cent.

The dissipation of electrical energy was measured by means of an ammeter and a voltmeter with an accuracy of 0.5. The wire diameter was measured by means of a micrometer with an accuracy of 0.005 mm and was checked a few times with a microscope. The length of the wire was measured with an accuracy of 0.5 mm. The tests were made with distilled water.

#### TEST RESULTS

About 43 tests at various pressures were made; 20 at pressures up to 100 atm, and 23 at pressures of 100-200 atm. Special attention was given to the range 170-200 atm, as being the most interesting from the point of view of extra-high pressure boilers. At these pressures, 12 tests were made, which gave consistent values of  $q_{max}$ .

The tests were divided into two groups:

- (1) Tests carried out at pressures of 1-64 atm, in which the surface of the platinum wire remained clean and polished during the experiment.
- (2) Tests carried out at 90 atm and above, in which there was some heat corrosion and salt deposition visible on the wire surface.

X-ray analysis showed that these deposits were amorphous silicon compounds formed at high pressures from the porcelain and quartz tubes used for the insulation of leads in the boiler.

Tests carried out at atmospheric pressure have shown that changes in the condition of the heating surface caused by corrosion and various deposits (deposits of salts, electrolytic deposition of copper) have an

important influence on the value of  $q_{max}$  and, as compared with the values obtained with pure metals, this always increases. It was, therefore, to be expected that with the appearance of deposits,  $q_{max}$  would increase sharply.

In order to obtain comparable results with both groups of tests, a piece of the wire covered with deposits was placed in a glass boiler, and, at atmospheric pressure,  $q_{max}$  for a given surface was determined. A graph was then drawn, in which, as ordinates, the ratio of  $q_{max}$  for a given pressure divided by  $q_{max}$  corresponding to atmospheric pressure was plotted.

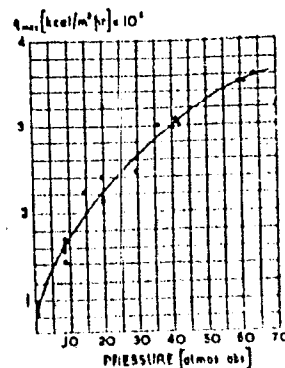


Fig. 3. Graph illustrating the relationship between  $q_{max}$  and pressure.

From the graph it is seen that, with the increase of pressure, the deviation of the curves indicating salt deposition starts at lower heat transfer values. Thus, if, at  $p = 92$  atm, the deviation of the curve started at a heat transfer of the order of  $3,500,000 \text{ kcal/m}^2 \text{ hr}$ , at  $p = 110$  atm this happens at  $q \approx 3,000,000 \text{ kcal/m}^2 \text{ hr}$ ; at  $p = 141$  atm,  $q = 2,000,000 \text{ kcal/m}^2 \text{ hr}$  and, finally, for  $p = 198$  atm, the curve changes direction at  $1,200,000-1,400,000 \text{ kcal/m}^2 \text{ hr}$ .

With the rise of pressure, the curves change rather more abruptly, which indicates the increase in intensity of deposition. This is also proved by the thickness of the deposits as measured after the tests.

However, considering a comparatively short time interval during which the test took place, there is not sufficient reason to believe that the deposition at a given pressure will not start at lower values of heat transfer if the duration of the tests were increased.

The measured values of  $q_{\text{max}}$  obtained on wires covered with salts are given in Fig. 5.

Data obtained from tests with porcelain insulators are shown by dots, and those for quartz by crosses. Deposits obtained in the two cases also differed in external appearance from each other. In the case of porcelain, the deposit had a coarse structure, whereas quartz produced a deposit having a smooth and glassy

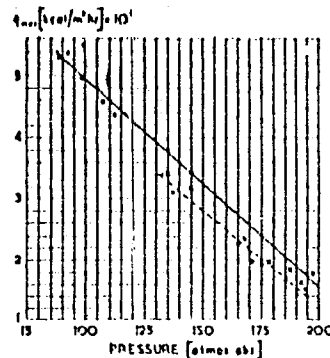


Fig. 5. Relationship between  $q_{\text{max}}$  and pressure.

structure, sometimes lustrous on fracture. Absolute values of  $q_{\text{max}}$  obtained with quartz insulators were somewhat lower.

The results obtained show quite clearly that the value of maximum heat transfer always decreases with rise of pressure above 90 atm; it decreases 3-3.5 times as compared with that at a pressure of 90 atm.

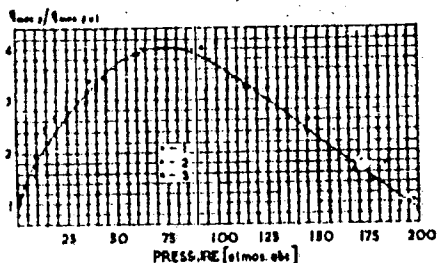


Fig. 6. Ratio  $(q_{max}/q_{max p=1})$  plotted against pressure.  
(1) Data for clean platinum wire,  $d = 0.15$  mm; (2) data for salt-covered platinum wire; (3) data for platinum wire covered with deposits of different composition.

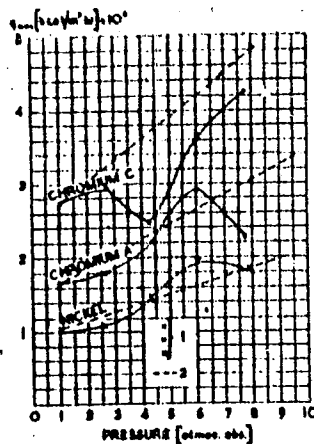


Fig. 8.  $q_{max}$  plotted against pressure, according to Farber and Seorin (1964), and Kazakova.  
(1) Farber and Seorin, wire diameter 1.0 mm; (2) Kazakova, platinum wire of 0.13 mm diameter.

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It is possible that the discrepancies in the available data depend on the geometrical dimensions of the tested surfaces. It is also necessary to make a special investigation into the influence of the factors mentioned and of others on the value of  $q_{max}$ .

4. The theoretical equations produced by S. S. Kutateladze and G. H. Krushilin agree quite well, in first approximation, with experimental data in the region of growth of  $q_{max}$ , but they diverge considerably for high pressures.
5. Test results of boiling water under pressure published in the U.S.A. in 1948<sup>4</sup> seem to be only first attempts with a comparatively small range of pressures. Their reliability is rather doubtful.

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END

HAZARDOVA, TD. A.

USSR/Physics - Heat Exchange 1 Mar 50

"Maximum Heat Flow in the Boiling of Water Under High and Superhigh Pressures," Ye. A. Kazakova, Power Eng Inst Imen Krzhizhanovskiy, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXI, No 1, pp 53-56

Established dependence of coefficient of heat emission upon specific heat flow during boiling of water for "skin" and "kernel" boiling: dependence of maximum heat flow  $q$  (varying from one million to 4 million kg-cal/sq m-hr) upon pressure (varying, correspondingly, from 1 to 80 at). Dependence of maximum heat flow  $q$  (5 million to

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USSR/Physics - Heat Exchange (Contd) 1 Mar 50

one million kg-cal/sq m-hr) upon pressure for boiling water on 0.15-mm platinum wires covered with alumo-silicate or silicate precipitate (in this case, pressure varied inversely, correspondingly from 80 to 250 at). Plotted parabolic convex-downward function ( $y$ )  $q_{\max} p / q_{\max} p = 1$  vs pressure ( $x$ ), for boiling water, for cases of pure wire and coated wire. Submitted 21 Dec 49 by G. M. Krzhizhanovskiy.

165T73

KAZAKOVA, YE. A.

Abst Journal: Referat Zhur - Mekhanika, No 12, 1956, 8361

Author: Kazakova, Ye. A.

Institution: None

Title: Effect of Pressure on the Occurrence of the First Critical State in the Boiling of Water on a Horizontal Plate

Original

Periodical: Coll: Vopr. teploobmena pri izmenenii agregatnovo sostoyaniya veshchestva, Moscow-Leningrad, 1953, Gosenergoizdat, 92-101

Abstract: An experimental determination was made of the value of the heat load, at which bubble boiling of water turns into film boiling. Experiments were made over a pressure range from one to 205 atm during boiling under conditions of free convection. According to these data, the value of the first thermal critical loading in the pressure region between 25 and 125 atm is  $32,500 \pm 5\%$  kcal/m<sup>2</sup> hr.

Card 1/1

KAZAKOVA, E. A. (Cand. Tech. Sci.)

(GIAP)

"Questions of Heat Exchange during the Critical Point under Conditions of Natural Convection."

report presented at sci. and tech. session on Heat Exchange during Change of Aggregate State of Matter (by Comm. on High Steam Conditions, Power Inst. AS USSR, and Inst. Thermal Engineering, AS UkrSSR), Kiev, 23-28 Sep 57.

S/064/60/000/02/10/025  
B022/B005

AUTHORS: Kazakova, Ye. A., Meshcheryakov, N. V., Artem'yeva, N. N.

TITLE: Cooling of Granulated Ammonium Nitrate in a Pseudo-liquid Layer

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 2, pp. 132 - 138

TEXT: The authors made experiments with periodic and continuous air cooling of ammonium nitrate granules in a pseudo-liquid layer the results of which are given in the present paper. The experiments of periodic cooling of granules were made in a laboratory plant described. Some results obtained in this plant for the granules of ammonium nitrate and of urea in a pseudo-liquid layer are given in Table 1. Experiments with continuous cooling of granules were carried out in the workshop of the Kemerovskiy ATZ (Kemerovo ATZ). The diagram of the experimental arrangement used is shown in Fig. 1. The output of the plant was varied within 161 - 268 kg/h, and the height of the pseudo-liquid layer within 50 - 150 mm while the air velocity was 0.6 - 0.8 m/sec. The influence of the air-flow velocity on the amount of heat abducted from the granules

Card 1/2

Card 2/2

KAZAKOVA, Ye.A.

Heat exchange with water and ethyl alcohol during natural convection  
near the critical point. Inzh.-fiz.zhur. no.6:3-8 Je '60.  
(MIRA 13:7)

1. Gosudarstvennyy institut azotnoy promyshlennosti, g. Moskva.  
(Ethyl alcohol) (Heat--Transmission)

KAZAKOVA, Ye.A., kand.tekhn.nauk; PESHCHERYAKOV, N.V., kand.tekhn.nauk;  
MUZYCHENKO, L.V.; DENEGA, A.I.; KHORDINA, Yu.A.; NIKIFOROVA, N.V.

Cooling of granulated fertilizers in a fluidized bed. Khim.  
prom. no.5:330-336 My '62. (MIRA 15:7)  
(Fertilizers and manures)  
(Fluidization)

KAZAKOVA, Ye.A., kand.tekhn.nauk; CHERNYAVSKAYA, M.K.; NIZHEGORODOVA, N.V.

Enrichment of weak nitrous gases by adsorption in a fluidized  
bed. Khim.prom. no.7:506-512 J1 '62. (MIRA 15:9)  
(Nitrogen oxide) (Adsorption) (Fluidization)



KAZAKOVA, Ye.A.; KHITERER, R.Z.

Generalization of the experimental data on hydrodynamics  
of a fluidized bed under pressure. Khim.prom. no.11:798-801.  
N '62. (MIRA 16:2)

(Fluidization)

(Hydrodynamics)

KAZAKOVA, Ye.A.; DENEGA, A.I.; MUZYCHENKO, L.V.

Heat transfer between granular particles and air in a fluidized bed.  
Inzh.-fiz. zhur. 6 no.4:51-55 Ap '63. (MIRA 16:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut  
azotnoy promyshlennosti i produktov organicheskogo sinteza, Moskva.  
(Heat—Transmission) (Ammonium nitrate) (Fluidization)

LINDIN, V.M.; KAZAKOVA, Ye.A.

Studying the heat exchange between solid particles and gas  
in fluidized and fixed beds. Khim. prom. 41 no.8:604-608 Aug '65.  
(MIRA 18:9)

ACCESSION NR: AP4032883

S/0286/64/000/008/0011/0011

AUTHOR: Kazakova, Ye. A.; Zelichenok, I. M.; Trifonova, N. S.

TITLE: Method of producing nitric acid. Class C Olo, 121, 23, No. 161701 (785821/23-4, 6 Jul 1962)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1964, 11

TOPIC TAGS: nitric acid, gas liquefaction, gas adsorbent

ABSTRACT: 1. A method of producing nitric acid from a gaseous mixture containing nitric oxide, oxygen and other gases by cooling the mixture and passing it through an adsorber containing pseudoliquefied layers of an adsorbent, for example, silica gel. The distinguishing feature is reduced product cost and simplification of the technological process. Water vapors are passed into the adsorber and nitric acid in the vapor phase is separated by desorption under a vacuum at a temperature of 80-120°C.

2. The method of para. 1, with the distinguishing feature of process intensifica-

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